

Q63931  
PATENT APPLICATION

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

In re application of

Yoshihito ASAOKA, et al.

Divisional of Appln. No.: 09/313,640

Group Art Unit: 2834 (parent)

Confirmation No.: Not Assigned

Examiner: C. LABELLE (parent)

Filed: April 16, 2001

For: STATOR OF AC GENERATOR FOR USE IN VEHICLE AND METHOD OF  
MANUFACTURING THE SAME

**PRELIMINARY AMENDMENT**

Commissioner for Patents  
Washington, D.C. 20231

Sir:

Prior to examination, please amend the above-identified application as follows:

**IN THE SPECIFICATION:**

**Please enter the following amendments to the specification:**

Page 1, amend the specification by inserting before the first line the sentence

This is a divisional of Application No. 09/313,640 (Confirmation No. *Not Assigned*)

filed May 18, 1999, the disclosure of which is incorporated herein by reference.

Page 12, paragraph 2:

An insulative-coated conductor wire is sequentially inserted into every third slot portion 51c around the stator core 51. When one round is completed, a second round is made inserting the wire into the same slot portions 51c, and this is repeated a predetermined number of times to

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form one phase of a stator coil 52 according to the concentrated winding method. In a similar way, the slot portions 51c into which wires are inserted are staggered to form three phases of stator coil 52. Each of the stator coils 52 is composed of rectilinear portions 52a which are inserted into the slot portions 52c, and coil end portions 52b which interconnect between adjacent rectilinear portions 52a at the outside of the stator core 51 in the axial direction thereof. At least one of the number of conductor wires which constitute each rectilinear portion 52a is formed into a polymorphic cross-section, and a number of conductor wires constituting each coil end portion 52b are all formed into a substantially circular cross-section.

**IN THE CLAIMS:**

**Please cancel claims 1-3 and 5-8 without prejudice or disclaimer.**

**Please enter the following amended claim 4:**

4. (Amended) A stator of an AC generator for use in a vehicle comprising:

    a cylindrical stator core in which a plurality of tooth portions are provided at equiangular intervals along the inner circumference of a cylindrical core back portion and a plurality of slot portions are each formed between adjacent tooth portions; and

    a stator coil incorporated in said stator core, said stator coil having a group of coils constituted by predetermined numbers of turns of conductor wires and including a plurality of rectilinear portions and coil end portions interconnecting the end portions of adjacent rectilinear portions, said rectilinear portions being sequentially accommodated in the slot portions of every predetermined number of slots and said coil end portions being protruded axially outwardly from the end surface of said stator core;

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wherein a greater part of the group of conductor wires constituting said rectilinear portion, which are accommodated within said slot portion, is formed into a polymorphic cross-section; and

wherein the ratio of the overall cross-sectional area of the group of conductor wires constituting said rectilinear portion accommodated within said slot portion relative to the cross-sectional area of said slot portion is not less than 75%,

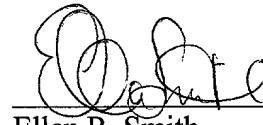
wherein the greater part of the group of conductor wires of polymorphic cross-section which constitute said rectilinear portion which are accommodated within said slot portion is directed such that the longitudinal axis of cross-section thereof extends in the radial direction of said stator core.

**REMARKS**

Claim 4 is pending.

Prior to examination on the merits, kindly enter the above amendments. No new matter has been added. Prompt and favorable action on the merits is solicited.

Respectfully submitted,



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Ellen R. Smith  
Registration No. 43,042

SUGHRUE, MION, ZINN,  
MACPEAK & SEAS, PLLC  
2100 Pennsylvania Avenue, N.W.  
Washington, D.C. 20037-3213  
Telephone: (202) 293-7060  
Facsimile: (202) 293-7860

Date: April 16, 2001

## APPENDIX

### VERSION WITH MARKINGS TO SHOW CHANGES MADE

#### IN THE SPECIFICATION:

**The specification is changed as follows:**

Page 1, amend the specification by inserting before the first line the sentence

This is a divisional of Application No. 09/313,640 (Confirmation No. *Not Assigned*)

filed May 18, 1999, the disclosure of which is incorporated herein by reference.

Page 12, paragraph 2:

An [insulate-coated] insulative-coated conductor wire is sequentially inserted into every third slot portion 51c around the stator core 51. When one round is completed, a second round is made inserting the wire into the same slot portions 51c, and this is repeated a predetermined number of times to form one phase of a stator coil 52 according to the concentrated winding method. In a similar way, the slot portions 51c into which wires are inserted are staggered to form three phases of stator coil 52. Each of the stator coils 52 is composed of rectilinear portions 52a which are inserted into the slot portions 52c, and coil end portions 52b which interconnect between adjacent rectilinear portions 52a at the outside of the stator core 51 in the axial direction thereof. At least one of the number of conductor wires which constitute each rectilinear portion 52a is formed into a polymorphic cross-section, and a number of conductor wires constituting each coil end portion 52b are all formed into a substantially circular cross-section.

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**IN THE CLAIMS:**

**Claims 1-3 and 5-8 are canceled.**

**Claim 4 is amended as follows:**

4. (Amended) A stator of an AC generator [as set forth in Claim 1] for use in a vehicle  
comprising:

a cylindrical stator core in which a plurality of tooth portions are provided at equiangular  
intervals along the inner circumference of a cylindrical core back portion and a plurality of slot  
portions are each formed between adjacent tooth portions; and

a stator coil incorporated in said stator core, said stator coil having a group of coils  
constituted by predetermined numbers of turns of conductor wires and including a plurality of  
rectilinear portions and coil end portions interconnecting the end portions of adjacent rectilinear  
portions, said rectilinear portions being sequentially accommodated in the slot portions of every  
predetermined number of slots and said coil end portions being protruded axially outwardly from  
the end surface of said stator core;

wherein a greater part of the group of conductor wires constituting said rectilinear  
portion, which are accommodated within said slot portion, is formed into a polymorphic cross-  
section; and

wherein the ratio of the overall cross-sectional area of the group of conductor wires  
constituting said rectilinear portion accommodated within said slot portion relative to the cross-  
sectional area of said slot portion is not less than 75%,

wherein [at least one] the greater part of the group of conductor wires of polymorphic  
cross-section which constitute said rectilinear portion which are accommodated within said slot

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portion is directed such that the longitudinal axis of cross-section thereof extends in the radial direction of said stator core.